

WHAT IS CLAIMED IS:

1. A three-wheeled vehicle, comprising:
 - a frame having a front portion and a rear portion defining a longitudinal axis;
 - an engine supported by the frame;
 - a seat supported by the frame;
 - a front suspension connected to the front portion of the frame;
 - two front wheels supported by the front suspension and laterally spaced from one another, each wheel having a tire mounted thereon that is suitable for road use;
 - a rear suspension connected to the rear portion of the frame;
 - one rear wheel supported by the rear suspension and operatively connected to the engine, the rear wheel having a tire mounted thereon that is suitable for road use and being centered with respect to the longitudinal axis of the vehicle;
 - a braking system operatively connected to the wheels, the braking system comprising two front brakes operatively connected to the two front wheels, and a rear brake operatively connected to the rear wheel;
 - an actuator operatively connected to the rear brake for generating a torque when actuated; and
 - a roll detection system signaling the actuator to actuate when the roll detection system detects a roll of the vehicle above a predetermined threshold, and causing the actuation of at least one of the two front brakes.
2. The three-wheeled vehicle of claim 1, wherein the actuator comprises an electro-magnet.

3. The three-wheeled vehicle of claim 2, further comprising at least one mechanical link connected between the actuator and at least one of the two front brakes, wherein actuation of the electro-magnet causes movement of the at least one mechanical link, thereby causing the actuation of at least one of the two front brakes.

4. The three-wheeled vehicle of claim 1, wherein the actuator displaces a fluid from a hydraulic cylinder of the braking system.

5. The three-wheeled vehicle of claim 1, further comprising a steering sensor operatively connected to the steering system, wherein the steering sensor is in communication with the roll detection system and prevents the roll detection system from causing the actuator to actuate under predetermined conditions.

6. The three-wheeled vehicle of claim 1, wherein the seat type is selected from a group consisting of a straddle type seat and a recumbent type seat.

7. A three-wheeled vehicle, comprising:
a frame having a front portion and a rear portion defining a longitudinal axis;
an engine supported by the frame;
a seat supported by the frame;
a front suspension connected to the front portion of the frame;
two front wheels supported by the front suspension and laterally spaced from one another, each wheel having a tire mounted thereon that is suitable for road use;
a rear suspension connected to the rear portion of the frame;
one rear wheel supported by the rear suspension and operatively connected to the

engine, the rear wheel having a tire mounted thereon that is suitable for road use and being centered with respect to the longitudinal axis of the vehicle;

a braking system operatively connected to the wheels, the braking system comprising at least one front brake and an actuator;

a steering assembly supported by the frame and operatively connected to at least one of the front wheels to transmit steering signals from an operator thereto, the steering assembly comprising a steering user interface and a steering sensor that senses position variation of the steering user interface and communicates the position to the actuator; and

a roll detection system signaling the actuator to actuate when the roll detection system detects a roll of the vehicle above a predetermined threshold, and causing the actuation of at least one front brake.

8. The three-wheeled vehicle of claim 7, wherein the steering sensor comprises a plurality of reed switches.

9. The three-wheeled vehicle of claim 7, wherein the roll detection system comprises a plurality of reed switches.

10. The three-wheeled vehicle of claim 7, wherein the actuator comprises at least one mechanical link operatively connected to an hydraulic cylinder.

11. The three-wheeled vehicle of claim 7, wherein the seat type is selected from a group consisting of a straddle type seat and a recumbent type seat.

12. A three-wheeled vehicle, comprising:

a frame having a front portion and a rear portion defining a longitudinal axis;

an engine supported by the frame;

a seat supported by the frame;

a front suspension connected to the front portion of the frame;

two front wheels supported by the front suspension and laterally spaced from one another, each wheel having a tire mounted thereon that is suitable for road use;

a rear suspension connected to the rear portion of the frame;

one rear wheel supported by the rear suspension and operatively connected to the engine, the rear wheel having a tire mounted thereon that is suitable for road use and being centered with respect to the longitudinal axis of the vehicle;

a braking system operatively connected to the wheels, the braking system comprising two front brakes operatively connected to the two front wheels, a rear brake operatively connected to the rear wheel, and a brake actuator;

a steering assembly supported by the frame and operatively connected to at least one of the front wheels to transmit steering signals from an operator thereto, the steering assembly comprising at least one tie rod and at least one knuckle operatively connected to the tie rod and the front wheel; and

at least one self-braking device operatively connected to the steering assembly and the braking system, the self-braking device being disposed between the tie rod and the knuckle and configured to cause actuation of the brake when a compressive force encountered by the tie rod exceeds a predetermined level.

13. The three-wheeled vehicle of claim 12, wherein the self-braking device comprises a resilient member configured to hold a pre-load of more than about 50 lbs.
14. The three-wheeled vehicle of claim 13, wherein the resilient member comprises a spring.
15. The three-wheeled vehicle of claim 13, wherein the resilient member is selected from a group consisting of a pneumatic cylinder and a hydraulic cylinder.
16. The three-wheeled vehicle of claim 13, wherein the self-braking device further comprises a pressure reservoir in fluid communication with at least one of the front brakes and a plunger operatively connected to the tie rod and the resilient member; the plunger being configured to increase the pressure within the pressure reservoir when the compressive force encountered by the tie rod exceeds approximately 50 lbs.
17. The three-wheeled vehicle of claim 12, wherein the self-braking device is in fluid communication with the brake actuator.
18. The three-wheeled vehicle of claim 12, wherein the self-braking device is mounted to the knuckle.
19. The three-wheeled vehicle of claim 18, wherein the steering device further comprises a pivoting lever that is operatively connected to the tie rod and the self-braking device.

20. The three-wheeled vehicle of claim 19, wherein a resilient member is disposed between the pivoting lever and the self-braking device.